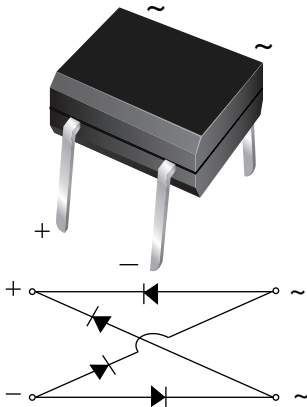


Miniature Glass Passivated Single-Phase Bridge Rectifiers


Case Style MBM

| PRIMARY CHARACTERISTICS | |
|-------------------------|---------------------|
| Package | MBM |
| $I_{F(AV)}$ | 0.5 A |
| V_{RRM} | 200 V, 400 V, 600 V |
| I_{FSM} | 30 A |
| I_R | 5 μ A |
| V_F at $I_F = 0.5$ A | 1.0 V |
| T_J max. | 150 °C |
| Diode variations | Quad |

FEATURES

- UL recognized, file number E54214
- Ideal for printed circuit boards
- Applicable for automotive insertion
- Middle surge current capability
- Recommended for non-automotive applications
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for power supply, lighting ballaster, battery charger, home appliances, office equipment, and telecommunication applications.

MECHANICAL DATA
Case: MBM

Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: As marked on body

| MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted) | | | | | |
|--|----------------|--------------------|-----|-----|------------------|
| PARAMETER | SYMBOL | B2M | B4M | B6M | UNIT |
| Device marking code | | B2 | B4 | B6 | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 200 | 400 | 600 | V |
| Maximum RMS voltage | V_{RMS} | 140 | 280 | 420 | V |
| Maximum DC blocking voltage | V_{DC} | 200 | 400 | 600 | V |
| Maximum average forward output rectified current (fig. 1) on glass-epoxy PCB | $I_{F(AV)}$ | 0.5 ⁽¹⁾ | | | A |
| Peak forward surge current 10 ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 30 | | | A |
| Rating for fusing ($t < 8.3$ ms) | I^2t | 5.0 | | | A ² s |
| Operating junction and storage temperature range | T_J, T_{STG} | - 55 to + 150 | | | °C |

Note

⁽¹⁾ On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

| ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted) | | | | | | |
|--|-----------------|--------|-----|-----|-----|---------|
| PARAMETER | TEST CONDITIONS | SYMBOL | B2M | B4M | B6M | UNIT |
| Maximum instantaneous forward voltage drop per diode | $I_F = 0.5$ A | V_F | 1.0 | | | V |
| Maximum DC reverse current at rated DC blocking voltage per diode | $T_A = 25$ °C | I_R | 5.0 | | | μ A |
| | $T_A = 125$ °C | | 100 | | | |
| Typical junction capacitance per diode | 4.0 V, 1 MHz | C_J | 13 | | | pF |



| THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|-----------------|-----|-----|-----|--------------------|
| PARAMETER | SYMBOL | B2M | B4M | B6M | UNIT |
| Typical thermal resistance ⁽¹⁾ | $R_{\theta JA}$ | | 90 | | $^\circ\text{C/W}$ |
| | $R_{\theta JL}$ | | 40 | | |

Note

⁽¹⁾ On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

| ORDERING INFORMATION (Example) | | | | |
|---------------------------------------|-----------------|------------------------|---------------|---------------|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| B2M-E3/45 | 0.22 | 45 | 100 | Tube |

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

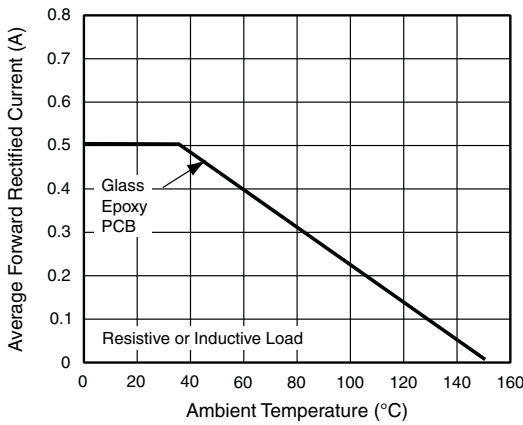


Fig. 1 - Derating Curve for Output Rectified Current

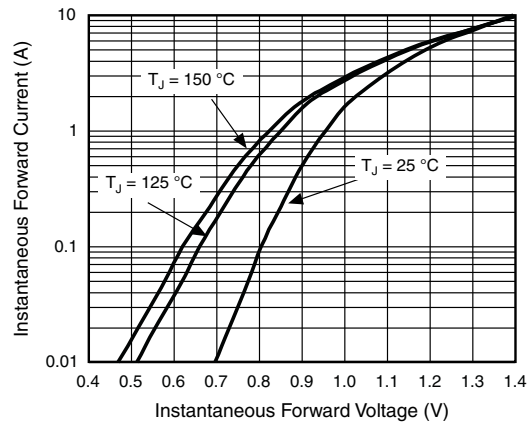


Fig. 3 - Typical Forward Voltage Characteristics Per Diode

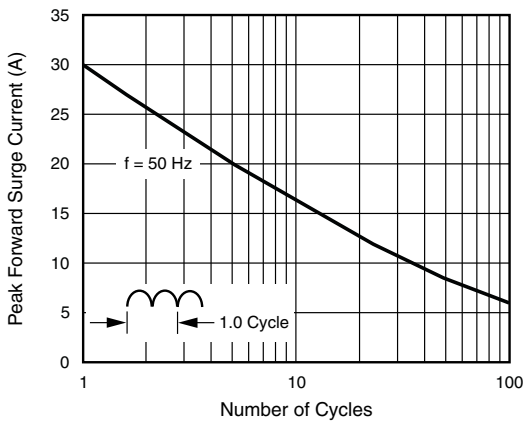


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

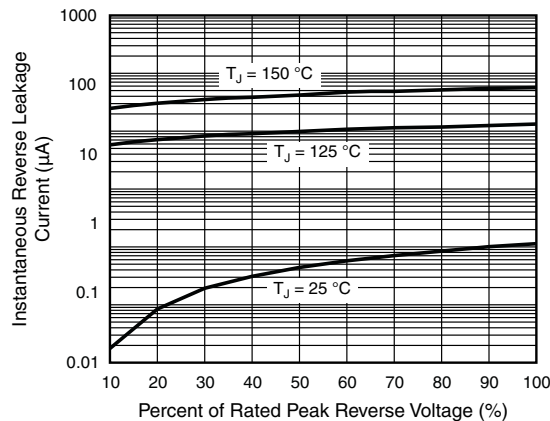


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

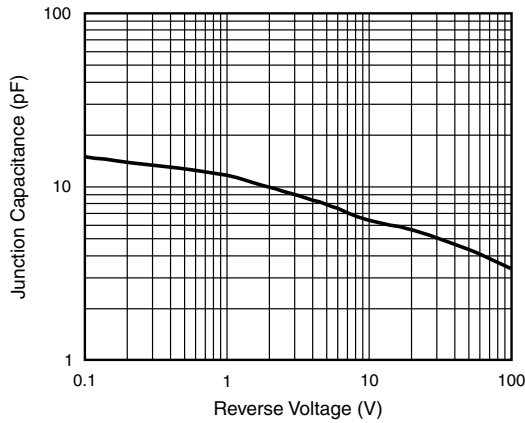
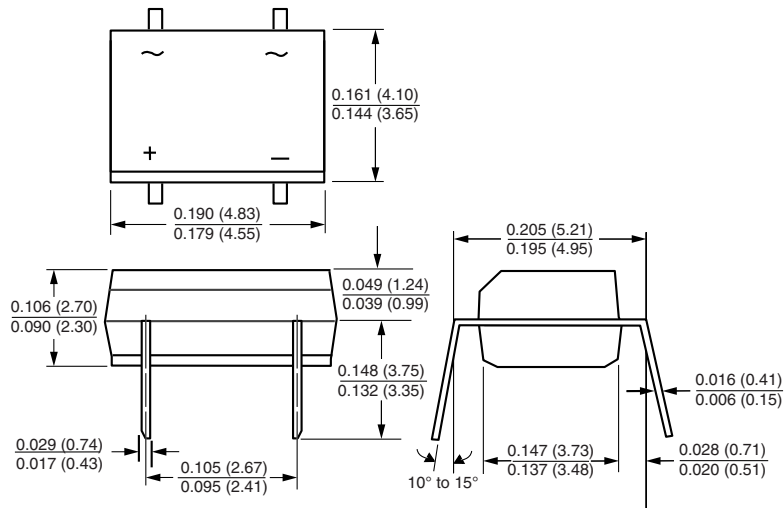


Fig. 5 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)
Case Style MBM





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